

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A recording device comprising:

one or more semiconductor memories;

an obtaining unit operable to obtain an upper limit of current to be supplied from an accessing apparatus to the recording device;

a command obtaining unit operable to obtain from the accessing apparatus at least one command, a type of which is one of a write command instructing data writing to the semiconductor memories and a read command instructing data reading from the semiconductor memories;

an access unit operable to receive current supply from the accessing apparatus and access the semiconductor memories according to a control signal; and

a control unit operable to calculate an access upper limit by subtracting an amount of current consumed by individual units other than the semiconductor memories and the access unit from the upper limit, set operating conditions of the access unit and the semiconductor memories according to the type of the obtained command, using the access upper limit,

generate the control signal based on the obtained command and the operating conditions, and output the control signal.

2. (Previously presented) The recording device of Claim 1, wherein

the control unit prestores therein a current consumption value representing an amount of current consumed by the access unit and the semiconductor memories, with respect to each type of the write and the read commands, and sets the operating conditions corresponding to the type of the obtained command using the access upper limit and the current consumption value.

3. (Previously presented) The recording device of Claim 2, wherein

the control unit sets the operating conditions that cause a parallel-operation count of memories out of the semiconductor memories to operate in parallel, the parallel-operation count being smaller than or equal to number of pieces of all the semiconductor memories, and outputs to the access unit the control signals generated based on the obtained command and the operating conditions, and instructing access to the parallel-operation count of memories, and the access unit accesses the parallel-operation count of memories.

4. (Previously presented) The recording device of Claim 3, wherein
the current consumption value represents the amount of current consumed by the access unit and the semiconductor memories for causing one of the semiconductor memories to operate, and
the control unit calculates, as the parallel-operation count, a quotient obtained by dividing the access upper limit by the current consumption value.

5. (Previously presented) The recording device of Claim 4, wherein
the access unit includes as many access subunits as the semiconductor memories, and each of the access subunits corresponds to a different one of the semiconductor memories,
the control unit generates the control signal that includes as many access signals as the parallel-operation count of memories,
each of the access signals is for instructing a different one of the access subunits to access a corresponding semiconductor memory thereof,
the control unit outputs each of the access signals to a corresponding one of the access subunits, and
access subunits that received the access signals access corresponding semiconductor memories according to the received access signals.

6. (Previously presented) The recording device of Claim 2, wherein
the control unit sets the operating conditions that cause the semiconductor memories to operate at a memory frequency which is no more than a maximum operating frequency of the semiconductor memories,
generates a clock signal having a same frequency as the memory frequency based on the command and the operating conditions, and outputs to the access unit the control signal including the generated clock signal, and
the access unit outputs the clock signals received from the control unit to the semiconductor memories and has access to the semiconductor memories.

7. (Previous presented) The recording device of Claim 6, wherein the control unit prestores therein, as the current consumption value, a maximum current value which represents an amount of current consumed by the access unit and the semiconductor memories when each of the semiconductor memories operates at the maximum operating frequency, and calculates the memory frequency using the access upper limit and a ratio of the maximum operating frequency to the maximum current value.

8. (Original) The recording device of Claim 7, wherein the control unit prestores therein the maximum operating frequency together with the maximum current value.

9. (Previously presented) The recording device of Claim 6, wherein the control unit prestores therein the current consumption value associated with the read command, and sets the operating conditions that causes the semiconductor memories to operate at the memory frequency in response to the read command.

10. (Previously presented) The recording device of Claim 6, wherein the control unit includes a frequency divider, generates the clock signal having a same frequency as the memory frequency using the frequency divider, and outputs the control signal including the generated clock signal.

11. (Previously presented) The recording device of Claim 6, wherein the control unit includes a PLL (Phase Lock Loop), generates the clock signal having a same frequency as the memory frequency using the PLL, and outputs the control signal including the generated clock signal.

12. (Previously presented) The recording device of Claim 2, wherein the control unit sets, as the operating conditions, a 1st operating condition that causes a parallel-operation count of memories out of the semiconductor memories to operate in parallel and a 2nd operating condition that causes the semiconductor memories operate at an operating frequency no more than a maximum operating frequency of the semiconductor memories,

adopts at least one of the 1st and 2nd operating conditions based on the type of the obtained command, and generates the control signal based on the adopted operating condition.

13. (Original) The recording device of Claim 2, wherein the semiconductor memories are flash memories.

14. (Original) The recording device of Claim 2, wherein the semiconductor memories are nonvolatile magnetic memories.

15. (Original) The recording device of Claim 1, wherein the obtaining unit obtains the upper limit by a Set Features command complying with ATA (AT Attachment) standard.

16. (Original) The recording device of Claim 1, wherein the semiconductor memories are portable and detachable from the recording device, and the obtaining unit, the access unit and the control unit make up a memory card drive device for reading and writing information from/to the semiconductor memories.

17. (Previously presented) The recording device of Claim 15, wherein the control unit outputs the control signal including a clock signal, and the access unit supplies the clock signal only to one or more of the semiconductor memories being accessed, and stops supply of the clock signal to remaining one or more of the semiconductor memories being not accessed.

18. (Previously presented) An access method used in a recording device including one or more semiconductor memories, comprising the steps of:

obtaining an upper limit of current to be supplied from an accessing apparatus to the recording device;

obtaining from the accessing apparatus at least one command, a type of which is one of a write command instructing data writing to the semiconductor memories and a read command instructing data reading from the semiconductor memories;

receiving current supply from the accessing apparatus and accessing the semiconductor memories according to a control signal; and

calculating an access upper limit by subtracting an amount of current consumed by individual units other than the semiconductor memories and the access unit from the upper limit, setting operating conditions of the access unit and the semiconductor memories according to the type of the obtained command with use of the access upper limit,

generating the control signal based on the obtained command and the operating conditions, and outputting the control signal.

19. (Previously presented) An access program used in a recording device including one or more semiconductor memories, and causing a computer to execute the steps of:

obtaining an upper limit of current to be supplied from an accessing apparatus to the recording device;

obtaining from the accessing apparatus at least one command, a type of which is one of a write command instructing data writing to the semiconductor memories and a read command instructing data reading from the semiconductor memories;

receiving current supply from the accessing apparatus and accessing the semiconductor memories according to a control signal; and

calculating an access upper limit by subtracting an amount of current consumed by individual units other than the semiconductor memories and the access unit from the upper limit, setting operating conditions of the access unit and the semiconductor memories according to the type of the obtained command with use of the access upper limit,

generating the control signal based on the obtained command and the operating conditions, and outputting the control signal.

20. (Original) The access program of Claim 19 stored in a computer-readable recording medium.

21. (New) A recording device that receives current supply from an accessing apparatus and is operated according to a command obtained from the accessing apparatus, the recording device comprising:

one or more semiconductor memories;

an access unit operable to access the semiconductor memories according to a control signal; and

a control unit operable to (i) set operating conditions of the semiconductor memories and the access unit according to the obtained command, using an upper limit of an amount of current consumed by the semiconductor memories and the access unit, and (ii) controls the access unit according to the control signal generated based on the obtained command and the operation conditions.